



Control Number: 46304



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PUC PROJECT NO. 46304

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OVERSIGHT PROCEEDING
REGARDING ERCOT MATTERS
ARISING OUT OF DOCKET NO. 45624
(APPLICATION OF THE CITY OF
GARLAND TO AMEND A
CERTIFICATE OF CONVENIENCE
AND NECESSITY FOR THE RUSK TO
PANOLA DOUBLE-CIRCUIT 345-KV
TRANSMISSION LINE IN RUSK AND
PANOLA COUNTIES)

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PUBLIC UTILITY COMMISSION
FILING CLERK BEFORE THE

PUBLIC UTILITY COMMISSION
OF TEXAS

**ELECTRIC RELIABILITY COUNCIL OF TEXAS'S
SIXTH STATUS UPDATE**

Electric Reliability Council of Texas, Inc. ("ERCOT") submits this status update pursuant to Paragraph 13 of the Commission's Revised Order Creating and Scoping Project, signed on May 23, 2017 ("Revised Order"), which requires ERCOT to "periodically update the Commission regarding its progress in completing" the tasks set forth in the Revised Order. These tasks arise from the Commission's May 23, 2017, Order on Rehearing in Commission Docket 45624, which imposes certain conditions on the interconnection of the DC tie project proposed by Southern Cross Transmission, LLC ("Southern Cross"). ERCOT filed its last status update in this matter on May 6, 2019.

ERCOT has made progress in a number of areas since the last status update. With respect to directive 4 regarding outage coordination, ERCOT drafted a whitepaper setting forth its determination that existing procedures in ERCOT Protocols and Guides are sufficient to ensure the reliable and cost-effective coordination of outages following the interconnection of the Southern Cross DC tie. *See Attachment A*, memo to ERCOT Board, whitepaper, and signed resolution approving directive 4 determination. In the whitepaper, ERCOT explained that the implementation of Nodal Protocol Revision Request (NPRR) 825, *Require ERCOT to Issue a DC*

Tie Curtailment Notice Prior to Curtailing any DC Tie Load—an NPRR approved after the Commission issued the Revised Order—resulted in the creation of system tools that can be used by ERCOT in outage coordination to analyze the impact of proposed outages on forecasted DC tie schedules. NPRR825 also added language to the ERCOT Protocols that gives ERCOT the option of curtailing DC tie exports, when necessary, to help resolve congestion. ERCOT has determined that these tools will permit ERCOT to reliably and cost-effectively coordinate outages after the interconnection of the Southern Cross DC tie. As a result, ERCOT has determined that no additional system changes or Protocol revisions are necessary to address outage coordination with respect to the Southern Cross DC tie. The ERCOT Board approved ERCOT’s determination with respect to directive 4 at its October 8, 2019, meeting. In light of the foregoing, ERCOT considers that its work on directive 4 is complete, unless otherwise advised by the Commission.

ERCOT’s work is ongoing on a number of other directives. With respect to directive 3, regarding ramp rate restrictions for DC ties, ERCOT has continued discussions with stakeholders at the Performance Disturbance Compliance Working Group (PDCWG). Based on these discussions, ERCOT intends to propose revisions to the ERCOT Protocols that would enable ERCOT to take additional actions to coordinate DC tie schedules when system ramp capability is insufficient to handle large changes in scheduled DC tie flows. ERCOT expects to bring these suggested revisions to stakeholders for discussion at an upcoming PDCWG meeting.

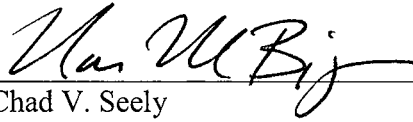
With respect to directive 7 regarding possible economic dispatch of DC ties and congestion management, ERCOT has discussed the directive at multiple meetings of the Congestion Management Working Group (CMWG). ERCOT expects to present its whitepaper setting forth its determinations to CMWG for discussion in the near future.

With respect to Directive 9 regarding ancillary services, ERCOT is evaluating with Southern Cross the possibility of Protocol language that would limit DC tie flows in lieu of requiring additional ancillary services to be procured. ERCOT expects to take this issue back to stakeholders for further discussion sometime early next year. ERCOT also expects to have further discussions with stakeholders early next year regarding next steps on directive 6, regarding transmission upgrades, and directive 8, regarding voltage support service. Finally, stakeholder discussions have not yet begun with respect to directives 2, 11, and 12, because work on those directives cannot begin until work on other directives is complete.

In summary, ERCOT staff, Southern Cross, and various ERCOT stakeholder groups have been working diligently on the issues raised in the Commission's directives, and ERCOT expects continued progress on these directives.

ERCOT would be pleased to provide any additional information the Commission may request regarding the status of this project.

Respectfully,



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ATTORNEYS FOR ELECTRIC RELIABILITY
COUNCIL OF TEXAS, INC.

Date: October 1, 2019
To: Board of Directors
From: Matt Mereness, Director of Compliance
Subject: ERCOT Recommendations to PUC Project No. 46304, Oversight Proceeding Regarding ERCOT Matters Arising Out of PUC Docket No. 45624 Relating to DC Tie Project Proposed by Southern Cross Transmission, LLC, Directive 4 – ERCOT Determination regarding Development of Methodology for Outage Coordination

Issue for the ERCOT Board of Directors

ERCOT Board of Directors Meeting Date: October 8, 2019

Item No.: 9

Issue:

Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should vote to accept ERCOT staff's determination that further modifications to ERCOT's Outage Coordination systems are unnecessary to facilitate Outage Coordination following the interconnection of the Southern Cross Transmission LLC (SCT) Direct Current Tie (DC Tie) because improvements to those systems introduced by Nodal Protocol Revision Request (NPRR) 825, Require ERCOT to Issue a DC Tie Curtailment Notice Prior to Curtailing any DC Tie Load, coupled with ERCOT's ability to curtail DC Tie flows as necessary, enable ERCOT to reliably and cost-effectively manage the impacts of Outages.

Background/History:

In Public Utility Commission of Texas (PUC) Project No. 45624, the PUC issued an Order that approved the City of Garland's application for a certificate of convenience and necessity (CCN) to build a new 38-mile-long, 345kV transmission line connecting the proposed 2,000 MW SCT DC Tie to ERCOT. In the Order, the PUC also imposed certain conditions on the interconnection of the SCT DC Tie. The PUC then opened PUC Project No. 46304, and on May 23, 2017, it issued a Revised Order in that project that directed ERCOT to complete a number of tasks—set forth in 14 different Directives—that the PUC deemed were necessary in order to accommodate the new SCT DC Tie.

ERCOT staff has been working with stakeholders and SCT since mid-2017 to complete the tasks set forth in the Directives. Discussions on the Directives have been taking place in the relevant working groups and subcommittees of the Technical Advisory Committee (TAC) to assist ERCOT staff in reaching resolutions on the discrete issues raised in each Directive, and these discussions are expected to continue until all of the issues raised in the Directives are fully resolved.

Once ERCOT staff makes a final determination as to how to resolve a discrete issue raised in a Directive, ERCOT staff follows an approval procedure that varies depending

on whether or not the resolution of a Directive (or, in some cases, a part of a Directive) requires a Protocol or Other Binding Document (OBD) Revision Request. If the resolution requires a Protocol or OBD Revision Request, then, as appropriate, ERCOT staff will present the issue for discussion at relevant working groups and subcommittees, the TAC, and to the Board; however, ERCOT staff will only request a vote from these groups when the Protocol or OBD Revision Request that is intended to resolve the Directive is before the group for consideration and vote. However, when ERCOT staff has determined that no Protocol or OBD Revision Requests are needed in order to resolve an issue raised in a Directive, ERCOT staff will seek endorsement of this determination at the relevant working groups, subcommittees and TAC. Regardless of whether those groups endorse the determination, ERCOT staff will present the issue and determination to the Board for a vote to accept the determination.

This particular determination concerns Directive 4, which requires that ERCOT:

“...shall develop and implement a methodology to reliably and cost-effectively coordinate outages following the interconnection of the Southern Cross DC Tie and shall certify to the Commission when it has completed these actions.”

Discussions with stakeholders regarding this issue occurred at the following meetings: Operations Working Group (OWG) on 6/26/2019, 7/25/2019; Reliability Operations Subcommittee (ROS) on 8/8/2019; Wholesale Market Subcommittee (WMS) on 9/4/2019; and TAC on 9/25/2019. ERCOT staff prepared a whitepaper ([link](#)) setting forth its determination and considerations relevant to that resolution, which was presented for discussion at these meetings.

ERCOT determined that no further revisions to ERCOT Protocols or OBDs are necessary in order to effectuate ERCOT’s determinations regarding reliable and cost-effective coordination of Outages following the interconnection of the SCT DC Tie.

ERCOT’s determination regarding Directive 4 was unanimously endorsed by TAC on September 25, 2019.

Key Factors Influencing Issue:

- The PUC’s Order in Docket No. 45624 was based in part on concerns relating to Outage Coordination that ERCOT raised in testimony it submitted in that proceeding. Following the PUC’s Order, however, the Board approved NPRR825. NPRR825 clarified ERCOT’s practices with respect to scheduling DC Ties but also introduced system tools that will give ERCOT greater visibility of operational limitations on the DC Ties and improve ERCOT’s coordination of Planned Outages. NPRR825 also recognized ERCOT’s authority to curtail DC Tie flows as necessary to address system conditions that may be influenced by approved Outages in Real-Time.



- With the system changes introduced by NPRR825, ERCOT believes it can reliably and cost-effectively manage Outage Coordination after the SCT DC Tie is energized. Further changes to ERCOT's Outage Coordination systems are unnecessary.

Conclusion/Recommendation:

ERCOT staff requests that the Board vote to accept ERCOT staff's determination that no further modifications to ERCOT's Outage Coordination systems are necessary to facilitate Outage Coordination following the interconnection of the SCT DC Tie because improvements introduced by NPRR825, coupled with ERCOT's ability to curtail DC Tie flows as necessary, enable ERCOT to reliably and cost-effectively manage the impacts of Outages.



PUC Project No. 46304
Oversight Relating to the Southern Cross Transmission (SCT) DC Tie
Outage Coordination Considerations (Directive 4)

Date: 9/25/19

Market stakeholder input: OWG 06/26/2019 and 07/25/2019, ROS 8/8/2019

OWG action: Consensus to endorse ERCOT's Southern Cross Transmission whitepaper regarding Directive #4, Outage Coordination Considerations.

ROS action: After making minor edit to Determination language, ROS unanimously endorsed ERCOT's Southern Cross Transmission whitepaper regarding Directive #4, Outage Coordination Considerations on 8/8/2019.

TAC action: After reviewing edits made following ROS, TAC endorsed ERCOT's Southern Cross Transmission whitepaper regarding Directive #4, Outage Coordination Considerations on 9/25/2019.

**Directive # 4 –
Outage
Coordination
Considerations**

ERCOT shall develop and implement a methodology to reliably and cost-effectively coordinate outages following the interconnection of the Southern Cross DC Tie and shall certify to the Commission when it has completed these actions.

Determination: ERCOT has determined that existing procedures set forth in ERCOT Protocols and Guides are sufficient to ensure the reliable and cost-effective coordination of outages following the interconnection of the SCT DC Tie. Further modifications to ERCOT's outage coordination systems are unnecessary specifically for the SCT DC Tie because NPPR825 improved ERCOT's processes and tools to study and coordinate outages, including assessing DC Tie schedules and the impact of outages on DC Tie schedules, while recognizing the authority to curtail DC Tie flows as necessary to address system conditions that may be influenced by approved Outages in Real-Time.

Technical reasons for determination

In 2016, as part of PUC Docket No. 45624, *Application of the City Of Garland to Amend a Certificate of Convenience and Necessity for the Rusk to Panola Double-Circuit 345-kV Transmission Line in Rusk and Panola Counties*, ERCOT submitted testimony indicating that it may have to develop a more complex process for coordinating outages due to the magnitude of the import and export capacity of the SCT DC Tie. More specifically, ERCOT expressed concern that, depending on the type of methodology adopted for coordinating outages, the size of the SCT DCT Tie could make studying and approving outages scheduled near the SCT DC Tie more complex.



Since that time, NPRR825, *Require ERCOT to Issue a DC Tie Curtailment Notice Prior to Curtailing any DC Tie Load*, clarified ERCOT's practices with respect to the scheduling of DC Ties. With these changes, ERCOT believes that it can reliably manage outage coordination after the SCT DC Tie is energized.

NPRR 825 requires ERCOT to calculate and post DC Tie advisory limits, based on expected system conditions, for every hour on a rolling 48 hour basis. Those limits consider approved outages. The system changes needed to create the advisory limit postings and other requirements of NPRR 825 are expected to be complete well before the SCT Tie begins operations. This tool can also be used in outage coordination by analyzing the impact of proposed outages on forecasted DC Tie schedules. NPRR 825 also added language that authorizes ERCOT to issue a DC Tie Curtailment Notice if Security Constrained Economic Dispatch (SCED) is insufficient to manage congestion and curtailment of a DC Tie would resolve a transmission security violation. See ERCOT Protocol Section 4.4.4(15). Accordingly, to the extent any approved outage may contribute to that violation, ERCOT has the option of curtailing the DC Tie exports, if necessary, to help resolve that congestion.

ERCOT believes that the market rules changes implemented since PUC Docket No. 45624 will avoid any need for complicated modifications to ERCOT systems that were discussed in the PUC Docket, and will provide reliable and cost-effective coordination of outages when the SCT Tie begins operations.

Directive 4 does not require ERCOT to study economic outage coordination

A few stakeholders have suggested that the phrase "cost-effectively coordinate" in Directive 4 mandates that ERCOT adopt economic outage coordination—i.e., coordination of outages based on predicted cost impacts to one or more groups of Market Participants. ERCOT interprets the directive to refer to costs incurred by ERCOT when coordinating Outages, which is consistent with ERCOT's testimony in PUC Docket No. 45624. ERCOT is not aware of any discussion of economic outage coordination in that proceeding, whereas the Commission's order in that case *did* address the costs of changes ERCOT could have to incur to develop a process for coordinating outages related to the SCT DC Tie in light of the potential increase in complexity. See Order on Rehearing, PUCT Docket 45624, Finding of Fact 90 ("ERCOT's determination of what changes may need to be made to its processes and systems for coordinating outages once the Southern Cross DC tie is interconnected is vital to ensuring the reliability of the ERCOT system.").

Potential impacts of NPRR 904 / OBDRR 009

Finally, ERCOT notes that NPRR 904, *Revisions to Real-Time On-Line Reliability Deployment Price Adder for ERCOT-Directed Actions Related to DC Ties*, and Other Binding Document Revision Request (OBDRR) 009, *ORDC OBD Revisions for ERCOT-Directed Actions Related to DC Ties*, have been approved and will impact DC Ties, including the SCT DC Tie. NPRR 904 and OBDRR 009 concern adjustments to price adders related to curtailment of DC Ties. Because these changes concern pricing, not reliability, ERCOT believes NPRR 904 and OBDRR 009 are beyond the scope of Directive 4. By its terms, Directive 4 is limited to the question of how ERCOT will coordinate outages following interconnection of the SCT Tie.



ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.
BOARD OF DIRECTORS RESOLUTION

WHEREAS, the Public Utility Commission of Texas (PUC) issued a Revised Order (Revised Order) on May 23, 2017, in PUC Project No. 46304 that contains 14 Directives requiring Electric Reliability Council of Texas, Inc. (ERCOT) to study certain issues related to the proposed Southern Cross Transmission, LLC (SCT) Direct Current Tie (DC Tie) and make determinations as to whether certain actions must be taken by ERCOT in order to accommodate the SCT DC Tie;

WHEREAS, Directive 4 of the Revised Order requires that ERCOT study and determine how to reliably and cost-effectively coordinate Outages following the interconnection of the SCT DC tie, make any necessary revisions to its standards, guides, systems, and protocols as appropriate, and certify to the Commission when it has completed these actions;

WHEREAS, ERCOT staff, after discussions with stakeholders, determined that no further revisions to ERCOT Protocols or Other Binding Documents are needed in order to effectuate ERCOT's determinations regarding how to coordinate Outages following the interconnection of the SCT DC Tie; and

WHEREAS, after due consideration of the alternatives, the Board deems it desirable and in the best interest of ERCOT to accept ERCOT staff's determination;

THEREFORE, BE IT RESOLVED, that the Board hereby accepts ERCOT staff's determination that no further modifications to ERCOT's Outage Coordination systems are necessary to facilitate Outage Coordination following the interconnection of the SCT DC Tie because improvements introduced by Nodal Protocol Revision Request (NPRR) 825, Require ERCOT to Issue a DC Tie Curtailment Notice Prior to Curtailing any DC Tie Load, coupled with ERCOT's ability to curtail DC Tie flows as necessary, enable ERCOT to reliably and cost-effectively manage the impacts of Outages.

CORPORATE SECRETARY'S CERTIFICATE

I, Vickie G. Leady, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its October 8, 2019 meeting, the ERCOT Board passed a motion approving the above Resolution by unanimous voice vote with no abstentions.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of October, 2019.


Vickie G. Leady
Assistant Corporate Secretary